The South African Journal
of
Medical Laboratory Technology

ORGAN OF THE SOCIETY OF MEDICAL LABORATORY TECHNOLOGISTS OF SOUTH AFRICA

Vol. 1, No. 1 A QUARTERLY March, 1955

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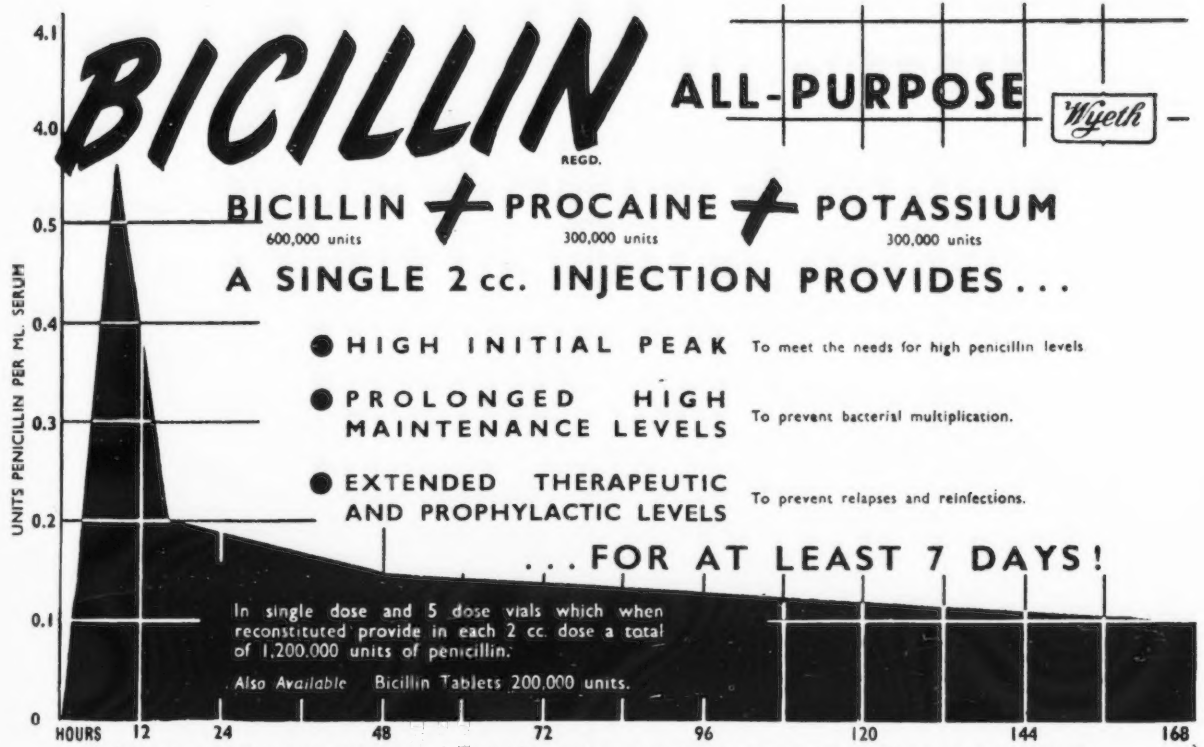

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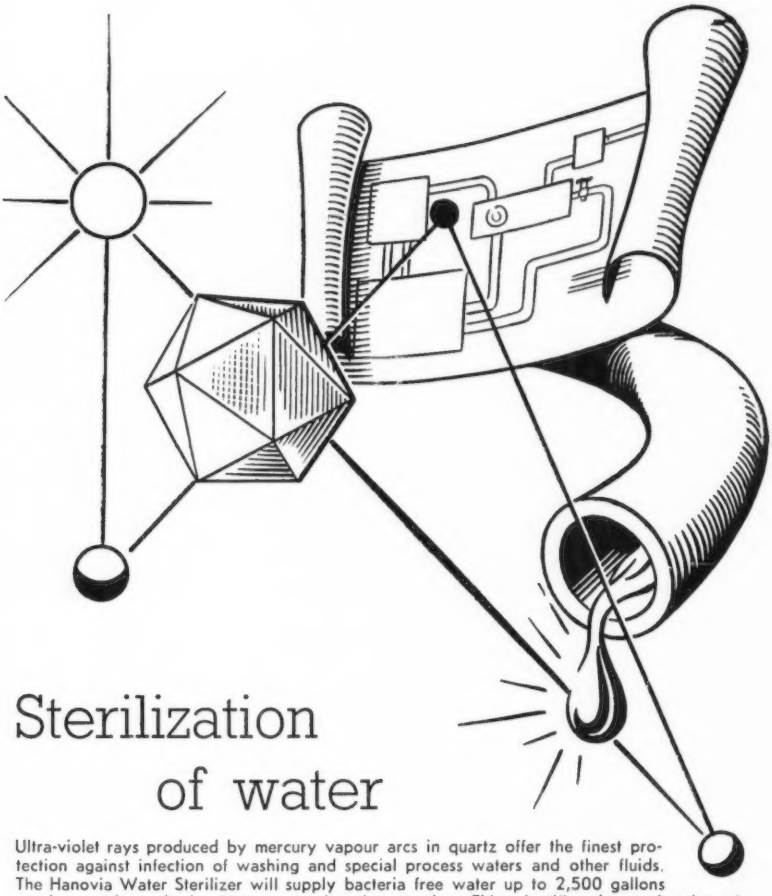

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EDITORIAL

A GROWING SOCIETY

With the publication of this first number of *The South African Journal of Medical Laboratory Technology*, the Society is embarking on one more venture in which it hopes to make a worthwhile contribution to Medical Technology not only in South Africa, but wherever the Journal may be read.

As we all know, Medical Technology is still a young profession, especially in South Africa. And the great increase in its scope since the last war has brought a corresponding increase in technologists and their associated problems. The National Society is attempting to solve these problems, and, because of its recent efforts, the provision of an adequate training scheme has at last been realised.

The biggest problem, however, which the new and struggling society has had to face has been lack of interest. There are many technologists whose attitude seems to be "we cannot see what we are going to get out of it". This outlook is a very normal one, and, if we are honest with ourselves, most of us must admit that our motives for joining any society are strongly tinged with the desire for some sort of personal gain. But a society does not exist apart from the members who compose it. Those who have assisted the Society wholeheartedly during the few years of its existence have shown that their efforts have paid dividends not only to themselves, but also to the society as a whole. To these people we are grateful. And to the others, who perhaps would like to enjoy advantages not yet offered by the Society, we should like to extend an invitation to give a little of their time and energy in order to reap benefits both for themselves and for their colleagues with similar desires.

It is pleasing to note that the initiative of student members of one of the Branches recently resulted in the formation of a students' sub-section of the branch. By working for something which they felt was lacking for them in the main branch, they were able to enjoy functions which especially catered for their interests.

Finally, the Society offers its heartfelt thanks to those advertisers who have stood by us during the difficult period which preceded the printing of this Journal.

REDAKSIONEEL

'N GROEIENDE VERENIGING

Met die uitgawe van hierdie eerste nommer van *Die Suid Afrikaanse Joernaal van Mediese Laboratorium Tegnologie,* maak die Vereniging weereens 'n begin met nog 'n onderneming met die hoop dat dit 'n waardige kontribusie vir Mediese Tegnologie sal wees, nie alleenlik in Suid Afrika nie, maar waar ook al die Joernaal mag gelees word.

Soos ons almal weet, is Mediese Tegnologie 'n baie jong beroep, vernaamlik in Suid Afrika. Die styging in sy omvang het 'n ooreenkomstige vermeerdering van tegnoloë en hulle bybehorende probleme aangebring. Die Nationale Vereniging probeer om die probleme op te los en as gevolg van sy onlangse pogings is daar uiteindelik voorsiening gemaak vir 'n voldoende opleiding skema.

Die grootste probleem waarteen die nuwe en vorstelende vereniging moet veg, is gebrek aan belangstelling. Daar is so veel tegnoloë by wie die houding skyn te wees „ons kan nie sien wat ons daaruit gaan kry nie". Die sienswyse is baie normaal en as ons eerlik wil wees teenoor onsself moet ons erken dat ons rede vir aansluiting by enige vereniging sterk beïnvloed is deur 'n verlange vir persoonlike wins. Maar 'n vereniging bestaan nie afgesonder van die lede wat dit saamstel nie. Die gene wat die Vereniging so hartlik bygestaan het gedurende die paar jare van sy bestaan het bewys dat hulle pogings goeie resultate gelewer het, nie alleenlik vir hulleself nie maar ook vir die vereniging as 'n geheel. Aan dié persone, is ons baie dank verskuldig; en aan die ander, wat miskien voordele wil geniet wat nog nie deur die Vereniging aangebied is nie, ryk ons 'n uitnoding om ook 'n weinige van hulle tyd en energie te verleen om sodoende dan ook voordele te trek, beide vir hulleself as ook vir hulle kollegas met soortgelyke verlange.

Dit is aangenaam om aan te teken dat daar, deur die inisiatief van studentelede van een van die Takke, onlangs 'n studente subseksie van die tak gestig is. Deur te werk vir iets wat vir hulle in die hooftak ontbreek, was hulle in staat om funksies te geniet wat vir hulle belange voorsiening maak.

Ten slotte wil die Vereniging sy hartlike dank uitspreek aan die adverteerders wat ons hulle ondersteuning verleen het gedurende die moeilike periode voor die druk van die Joernaal.

THE THIN SECTIONING OF WHOLE ORGANS

M. D. WICKHAM

Department of Pathology, Medical School, University of Natal, Durban

In teaching institutions one of the many problems which confront the academic staff is the finding of new and more practical methods for demonstrating their lectures. One such method is the sectioning and mounting on paper of whole pathological organs, originally developed in 1945 by J. E. Wentworth in the Welsh National School of Medicine.

In attempting this technique it is necessary to have a large sliding microtome as manufactured by the Measuring and Scientific Company. The length of the knife's cutting edge is 14 inches and the width of the blockholder 9 inches. A vacuum embedding bath is also necessary to facilitate the impregnation of the tissue with gelatin.

Two main procedures are followed, depending on the nature of the tissue to be sectioned. If the specimen is lung, it is perfused with a solution of formol acetate and then totally immersed in a large quantity of the fixative for a period of up to three weeks. If the specimen is not of a friable nature, e.g. liver, heart, kidney, etc., it is immediately attached to the blockholder of the microtome with a warm solution of 25% gelatin and frozen solid in a deep-freeze unit at −15° C.

After allowing the lung to fix for a week or so, a thin slice, about ¾" to 1" in thickness, is cut from the organ and again allowed to fix for a further period of three weeks. It is then removed from the fixative and washed in running water for 48 – 72 hours to free it from formalin. Impregnation with the following solution is done under vacuum:

Gelatin	250 g.
Ethylene-glycol-mono-ethyl-ether	20 ml.
Capryl alcohol	5 ml.
Water	850 ml.

The process is completed in about an hour if the gelatin solution is maintained at 60° C. The lung slice is next cast into a block of the same gelatin solution by using two rectangular perspex strips supported on a glass base. The block is cooled rapidly in the freezer and when sufficiently hard is freed from the mold and attached to the microtome blockholder, using hot gelatin as the adhesive. The holder with the block is then placed in the deep-freeze until har [illegible].

Cutting is done as the block is thawing, the optimum temperature being learned by experience. The thickness of the sections may be varied between 200 and 600 microns. They are carefully removed from the knife blade and immersed in formol acetate between sheets of filter paper to ensure flat, unwrinkled sections. They remain there for at least 24 hours.

In the case of non-friable tissue the sections are removed from the knife and also immersed in formol acetate between sheets of filter paper.

Due to the rapid thawing of the tissue the cutting has to be performed with alacrity. Before carrying the sections further, 24 – 48 hours is allowed for fixation.

Prior to mounting, the sections may be stained (F. A. Brandt 1953), (B. A. Dormer, G. Martinaglia and A. M. Beemer 1951) or mounted after restoring their natural colour in 95% ethanol. It is essential that they should be as formalin-free as possible before staining.

The sections are mounted on Whatman's No. 1 filter paper with the use of the following solution:

Gelatin	75 g.
Glycerine	70 ml.
10% Camphor in methanol	10 ml.
Water	850 ml.

A layer of the warm solution is poured over a clean perspex sheet. The section is then gently placed on the sheet and a further quantity of gelatin is poured over it. The filter paper is carefully lowered to cover the section completely. Surplus gelatin is removed by means of a squeegee. Care is taken to remove all air bubbles which may have been trapped beneath the filter paper.

The sheet is left at room temperature until no wet patches are apparent, after which it is placed in a hot air oven at 37° C. for 6 – 18 hours. The paper together with the section should then easily peel from the perspex. It is trimmed to the required size and immersed in Bedacryl 122X, a fast drying plastic solution soluble in Xylol. The paper is then suspended horizontally and allowed to dry in a dust-free atmosphere.

The final mounting, at present, is completed by pressing the paper on to smooth, glossy white cardboard with the aid of a photographic dry mounting press and framing behind glass. The pressing flattens the paper permanently, thereby doing away with any tendency to curl.

This method of presenting pathological tissue has met with much criticism from some members of the medical fraternity. It is alleged that the preservation of tissue in museum jars is more effective in demonstrating pathology. But when sections can be taken at different levels through some pathological process surely it is a decided advantage over the purely superficial appearance presented by the normal museum mounting? The method is successfully used to demonstrate the distribution of lesions in relation to dust deposits in coalworkers pneumoconiosis (J. Gough and J. E. Wentworth 1948). It is of decided value when sections can be compared with X-ray plates, thus providing a closer correlation between pathological and radiological appearances. The demonstration of large mineral deposits within tissue is also possible by impregnation and histochemical methods. An important practical advantage these sections have over museum mounted specimens is the considerable saving of space, a commodity much sought after in any museum.

SUMMARY

A method, based on the previous work of J. Gough and J. E. Wentworth, is described for the sectioning of whole organs and their subsequent mounting on filter paper. The sections, either stained, histochemically treated or in natural colour, may prove successful in demonstrating pathology to students.

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RHESUS GROUPING IN NATAL

P. P. MOORES

Blood Group Reference Laboratory, Addington Hospital, Durban

Blood groups and their study in relation to clinical medicine are subjects of absorbing interest both to those who are well acquainted with and to those who have only a vague understanding of them. The chief attraction lies in their relatively recent discovery. The ABO Groups have been known since 1900, but the Rhesus Groups and other blood group factors made their appearance in medicine in the early years of the last war.

In Natal, Rhesus Grouping was introduced in 1948, and began with a tiny laboratory with one technician armed with a few test tubes and a small centrifuge. The public and the medical profession at that time were largely unaware of the necessity for pregnant mothers to have a blood group test, and it took some time, together with the co-operation of the leading gynaecologists, to bring this about. Few specimens were received at the laboratory to begin with and there were a number of infants born with haemolytic disease which remained undiagnosed until it was too late for anything to be done.

However, this situation soon improved under active campaigning. By 1950 the Rhesus Prouping Laboratory was well established with a staff now numbering two, and the majority of mothers with rhesus antibodies were being singled out well in advance of the date of their delivery. Thus, doctors were fully prepared to make an immediate exchange transfusion of the child's blood at birth if necessary.

The whole of Natal responded actively, and early in 1952 the Laboratory moved from Wentworth to Addington Hospital in order to be more centrally situated. At the same time a Rhesus Clinic was established as a centre for the delivery of Rhesus immunised mothers and for the subsequent treatment and care of children affected with haemolytic disease of the newborn.

The scope of the Laboratory was widened to include additional follow-up tests after exchange transfusion, and a 24 hour call service was instituted to perform cord blood tests immediately after birth.

These steps were important and the Laboratory continued to progress. With a staff of five trained technologists over 2,300 tests are now made every month and the service covers both Europeans and Non-Europeans. Approximately 30 infants are born per year at the Rhesus Clinic, while Non-European cases are treated at similar clinics in their hospitals.

TECHNICAL

In the early days of the laboratory the techniques of grouping and for the detection of antibodies were relatively simple. The anti-sera necessary for ABO grouping were and always are readily available from blood donors, but all the rhesus antisera were imported.

The patient's blood group was determined first, followed by a test for the presence of the rhesus antibody on all those who were found to be rhesus negative. Normal saline, and albumen suspension of known Group 0 rhesus positive cells were mixed with the patient's serum and incubated at 37° C. for one hour, at the end of which time the presence of agglutination of the cells indicated a positive result.

Much greater accuracy was obtained early in 1950 by the introduction of Coombs Anti-Human Globulin test. The Coombs test is a laborious one, involving repeated washing of the test cells, but it is very sensitive and thus amply justifies its use. The presence of Rhesus antibodies could now be detected when only in very low titre, and checks on the rise and fall of titre throughout pregnancy could be kept in detail.

Coombs serum may also be used direct on the cord blood of newly born infants, thus giving a most valuable early sign of any active sensitization even before clinical manifestations become apparent.

As the number of ante-natal pregnancy tests increased, however, the volume of work grew, and by the latter half of 1951 the introduction of an entirely different technique for the detection of antibodies was welcomed.

The new test necessitated the use of an enzyme to treat the test cells. Suitable enzymes were Trypsin and Papain. These were tried out and finally Papain was selected for the routine use as the more specific test. Both enzymes induce a certain amount of false agglutination but, with the careful use of a panel of known blood groups, errors should be very few.

The following are details of use:—

Preparation: 1.0 gm. of powdered papain, obtainable from recognised pharmaceutical sources, is dissolved in 100 ml. normal saline at 4° C.

The solution is then filtered at 4° C. and divided into portions of 5–10 mls. in screw-capped bottles which are stored as near the ice compartment as possible.

For daily use 1.0 ml. phosphate buffer pH 7.7 and 9.0 mls. normal saline are mixed, from which 1.0 ml. is discarded. 1.0 ml. of the papain solution is added in place and mixed thoroughly.

Method: The test cells are washed in normal saline three times. To 10 mls. packed cells add 2.0 mls. of the daily prepared papain solution and mix thoroughly. Incubate at 37° C. for 30 minutes. After incubation wash the cells three times and make a 10% suspension of them in normal saline. One drop of this suspension should be added to one drop of the patient's serum in a test tube.

Incubate at 37° C for 30 minutes.

Centrifuge down lightly.

Read macroscopically.

The test is easily and quickly performed and enables the technician to make use of several types of test cells in parallel for each patient.

In practice a series of three Group O Rhesus positive cells and one Group O Rhesus negative cells are used

As a result of this test the efficiency of detection has increased and it has become possible to test all cases Rhesus positive and Rhesus negative for the rarer blood group antibodies.

These were soon discovered particularly among the Bantu, of whom approximately 95% are Rhesus positive.

The Rhesus Laboratory, now renamed the Blood Group Reference Laboratory, soon obtained a varied selection of the essential antibodies from suitable blood donors, which enabled the blood grouping panel of volunteers to be determined locally for use in identifying all future antibodies.

It is now possible to offer the medical profession our greatly improved laboratory service, which is rapidly progressing. The investigation of anti-A and B isoagglutinin titres which may or may not cause haemolytic disease of the newborn is in hand, and all cases with a suspicious history are examined. In addition, there are extensive records of cord blood haemoglobin and bilirubin tests over three years for analysis.

* * *

TAILPIECE

"He prayeth best who loveth best
All things both great and small;
The Streptococcus is the test,
I love him not at all."

—AUTHOR UNKNOWN.

THE DYSENTERIES

(Synopsis of a lecture given by Professor Sir Philip Manson-Bahr to the Durban and Coastal branch of the South African Medical Association on 9th November, 1954.)

During Sir Philip Manson-Bahr's recent short visit to Durban, qualified medical technologists were invited to his address to the local branch of the Medical Association.

Choosing "The Dysenteries" as his subject, Sir Philip opened his talk by describing his introduction, in 1909, to this branch of tropical medicine. This was in the Fiji Islands, where an epidemic of bacillary dysentery was proving fatal to 47% of those infected. The causative agent was isolated as "Shiga's bacillus", about which little was known at that time. After determining that the house-fly was responsible for the transmission of the disease, Sir Philip initiated preventative measures which finally resulted in the complete disappearance of bacillary dysentery from these islands.

Our lecturer then outlined his experiences as a medical officer with the army at Gallipoli during the 1914–18 war; and delighted his audience with his humorous accounts of situations that arose as a result of the inflexibility of army regulations and the ignorance of the authorities. But, at the same time, he gave an impressive insight into the consequences of the virulent epidemic of bacillary dysentery which almost decimated the ranks at that time. 20,000 soldiers were hospitalised with the disease, which very often proved fatal. The authorities, in spite of evidence to the contrary, believed that the epidemic was one of amoebic dysentery, and treated the patients with emetin. They even published a paper in which the macrophages commonly associated in stool preparations with bacillary dysentery were described as a new stage in the life cycle of *Entamoeba histolytica.*

With the help of lantern slides, Sir Philip Manson-Bahr illustrated the differences between amoebic and bacillary dysentery. Photographs of autopsy tissue and sigmoidoscopes of living patients showed the extensive destruction of the gut wall in each case. The widespread ulcers, mucosal in origin, which characterised bacillary dysentery were contrasted with the localised ulcers of submucosal origin typical of amoebic dysentery. Slides of perforated amoebic ulcers and amoebic invasions of the skin, liver and brain were also shown.

The differences between the stool exudates commonly associated with amoebic and bacillary dysentery were demonstrated, and the danger of confusing *E. histolytica* with *E. coli* and other organisms was mentioned. Sir Philip Manson-Bahr warned his listeners against diagnosing amoebic dysentery on the grounds of circumstantial evidence such as the presence of Charcot-Leyden crystals in stools. He discussed the relative efficacy in diagnosis of sigmoidoscopy (which was now very reliable) and

examinations of stools and bowel scrapings; and quoted instances to show that a negative stool examination did not preclude the possibility of amoebic dysentery. This was because there were often long periods when the amoebae were not passed in the stools, but were nonetheless actively multiplying in ulcerated pits in the wall of the rectum, whence they could be recovered in a bowel scraping.

Because of the great variability in the pathogenicity of *E. histolytica*, and because many people could suddenly develop symptoms after harbouring this parasite for long periods without ill effects, Sir Philip expressed the opinion that there was still much to be found out about the life history of *E. histolytica*. He supported the theory that *E. histolytica* goes through a coprozoic or bacteriophage stage, and only in special circumstances resorts to ingesting blood.

Sir Philip Manson-Bahr concluded his talk by discussing the efficacy of different treatments of the dysenteries. The sulpha drugs had, of course, largely eliminated the one-time fatal effects of bacillary dysentery. Emetin had for many years been the standard treatment for amoebic dysentery, and had proved successful in about 70% of the cases treated. More satisfactory results, however, were now being obtained by combining emetin treatment with substances such as diodoquin or aureomycin. These combinations tended to minimise the likelihood of a relapse, which often occurred when the drugs were used alone.

S. E. D.

* * *

SNAKES

(Synopsis of a lecture given by Mr. D. C. Fitzsimons, of the Durban Snake Park, to the Natal Branch of the Society on 11th November, 1954.)

At its November meeting, the Natal Branch was given a talk on a subject which, while only slightly connected with Medical Technology, was clearly of great interest to the members present. Its success may be indicated by a remark made by a member after the talk—"I have never known a meeting when so many people asked so many questions."

Mr. Fitzsimons began by telling us that there were between 4,000 and 5,000 species of snakes, infesting about two-thirds of the world's area. The order probably arose about 2½ million years ago, and had clearly evolved from the lizards. Snake-like lizards form a living link between the two groups. The most primitive extant true snakes are *Typhlops* and *Leptotyphlops*, which are small, harmless reptiles living on soil bacteria. Some snakes still have rudimentary appendages indicating their lizard-like ancestry, such as the boas, pythons and anacondas, which have degenerate hind limbs.

There are about 106 species of South African snakes. Most of these are non-poisonous, and some have considerable economic value. The python, for instance, is the only natural enemy of the cane-rat, and, as it

seldom attacks man, Mr. Fitzsimons advocated its use by sugar farmers in biological pest control. The Department of Agriculture recommends the breeding of mole-snakes for control of moles in mealie fields.

The layman often has difficulty in identifying snakes. The only reliable method is by examining the scalation, as the colour and markings often change considerably as the snakes mature. The green mamba, however, is not an adolescent black mamba as is sometimes supposed. This fallacy arose because young black mambas are seldom seen, as they remain hidden till they reach maturity. But these young snakes are, in fact, replicas of the adults.

Mambas are often confused with the much less dangerous boomslang, which is far commoner because it lays up to 50 eggs at a time, while the mamba only lays from seven to ten eggs, of which about a third are infertile. The boomslang may be distinguished by its short, stout snout and large, protruding eyes, while the mamba has a long, narrow snout and small eyes.

Poisonous snakes are divided into back-fanged and front-fanged species. The former often have considerable difficulty in injecting venom, as there is no direct duct between the poison gland and the fangs, and the poison oozes down the fang from a sac at its base. However, back-fanged snakes are often underestimated, because, if the reptile is annoyed, there can be a seepage of toxic fluid through the mucus of the mouth, and any perforation, even by the front teeth, can prove poisonous. In this way, a boomslang can kill in 48 hours. There is also the secondary danger, in any snakebite, that spore-bearing bacteria may be injected into the wound, sometimes causing gangrene round the bite.

Of the commoner South African front-fanged snakes, the cobras and mambas secrete nerve poisons. The symptoms begin with desensitisation at the site of the bite, and proceed through difficulties in articulation and swallowing, and paralysis of the limbs, to paralysis of the brain or respiratory centres. If the brain is affected first, the patient dies in a merciful coma; if the respiratory system, he suffers convulsive seizures attempting to get air into his lungs. A cobra bite can kill in 45 minutes. Mamba venom is less toxic, but it is absorbed more rapidly, so death can result in from 20 to 30 minutes. The ringhals and black-necked cobra, or 'mfesi, can also cause permanent blindness by spitting into the victim's eyes.

The adders secrete haemolytic poisons. Although these are slower-acting, they are as dangerous as the nerve poisons. The first symptom is an extensive swelling radiating from the fang punctures, and the patient dies in a few hours from extensive internal haemorrhages. The night adder is one of the most poisonous. Although its venom is not as toxic as that of the puff adder, it has a pair of relatively enormous poison sacs, which extend for about six inches along each side of the backbone. In other species, the sacs are small bodies lying behind the eyes. The Gaboon viper is also particularly dangerous, as it combines its haemolytic poison with a high percentage of neurotoxin.

Although the toxic principle comprises only about one-third of the total secretion, snake venoms are probably the most poisonous substances known. They consist of an animal protein which has not yet been analysed. Young snakes are as venomous as adults; and broken fangs can soon be replaced.

For first-aid treatment of snakebite, the patient should be kept warm. Alcohol should not be given, as it increases the rate of venom absorption and decreases the effect of antivenine serum, which should always be injected as soon as possible. Potassium permanganate is useful as a first-aid measure, in the absence of serum, as it oxidises the poison with which it comes in contact. It must, however, be applied within five or ten minutes of the bite. It may be applied to cuts made over the fang punctures, or, better still, injected in weak solution around the bite. A 2% solution may be used for bathing the eyes.

The antivenine serum produced in this country is the most effective known, and counteracts all South African snake poisons. It is very concentrated—much more so than the serum produced in India, where 200 to 300 ml. must be injected for a cobra bite It is taken from horses which have been immunised against Cape cobra and puff adder venom, and, as the horses must be injected regularly to keep up their immunity, large numbers of these snakes are needed annually. But the serum is not an infallible remedy. The psychological effect of a snake-bite is considerable, and patients may die more from shock than from the actual bite. Thus, snakes are often more poisonous to man than to animals. The venom always has the advantage of having been injected first, and death can occur before the serum takes effect. Also, a full-grown angry snake may inject three to four times the lethal dose, and insufficient serum may be injected. Some people may show allergic reactions to the serum, but this is comparatively rare. Children must always be given the full adult dose, and it is better to overdose than underdose.

The meeting ended after Mr. Fitzsimons had answered numerous questions from his audience and members had examined his extensive collection of illustrations and preserved snakes.

S. E. D.

* * *

"Do not Fear to defend new ideas, even the most revolutionary. Your own faith is what counts most. But have courage also to admit an error as soon as you have proved to yourself that your idea is wrong. Science is the graveyard of ideas.

"But some ideas that seem dead and buried may at one time or another rise up to life again more vital than ever."

—From "Penicillin, a Dramatic Story" by Boris Sokoloff, M.D.

C.A.L.V.

TECHNICAL ABSTRACTS

The Official Abstractors for this column are:—

Bacteriology	G. W. Wikeley
Biochemistry	J. Greenstein
Blood Transfusion Technique	P. P. Moores
Haematology	A. H. Schriever
Histology	A. Scott
Parasitology	R. Horner

Contributions for this column will also be welcomed from other readers of the Journal.

Additional uses for polyvinyl alcohol in parasitologic diagnosis.

WILSON, J. K. and MASKELL, E. K. (1952). *J. lab. and clin. Med.*, **40**. 154–155.

Abstract: "The technique is as follows: (a) Concentrate a portion of feces containing cysts by the Faust zinc sulphate technique. (b) Place two loopfuls of the concentrate on a clean glass slide, and add three small drops of a 2.5% aqueous solution of PVA. Mix well with a dissecting needle. (c) Spread the suspension in a thin even film approximately the size of a standard square coverslip (22 by 22 mm.). (d) Immediately immerse the slide for a minimum of twenty minutes in a saturated solution of mercuric chloride in 70% ethyl alcohol to which just prior to use 5% acetic acid is added. A saturated solution of mercuric chloride in 70% alcohol is used instead of the customary Schaudinn's solution because PVA is soluble in the latter fixative. (e) Stain with Heidenhain's iron hematoxylin. Do not allow the slides to dry at any stage in the procedure.

"Polyvinyl alcohol may also be used in the preparation of semi-permanent mounts of helminth ova. Ova, obtained by concentration, are placed on a slide, mixed with a few drops of PVA fixative and cover-slipped. The preparations are satisfactory for a period of several weeks, and exhibit little or no distortion."

R.H.

Effect of some serums on titre of Rhesus Antibodies. A method for determination of Rhesus sensitisation.

LEROY, E. P. and SPURRIER, W. (1953). *J. lab. and clin. Med.*, **42**, 85.

Sera from eight Rhesus negative women in whom sensitisation to the Rhesus agglutinogen by pregnancy was suspected were used as diluents in the titration of known Anti-Rh. sera. An increase in the titre of the known Anti-Rh. serum occurred which was abolished by absorption with Group O Rh. positive cells but not with Group O Rh. negative cells. It therefore appears that this is a more sensitive test for Rhesus Sensitisation.

P.P.M.

A case of Sickle cell—Haemoglobin C disease and a survey of Haemoglobin C incidence in West Africa.

EDINGTON, G. M. and LEHMANN, H. (1954). *Trans. Roy. Soc. trop. Med. Hyg.*, **48**, 332.

SUMMARY

1. A case of Sickle cell—Haemoglobin C disease* is described: it is the first finding of haemoglobin C in Africa.

2. A random survey of 200 outpatients in Accra showed haemoglobin C to be present at a frequency of 12%. Two further individuals with sickle cell—haemoglobin C disease and one who was homozygous for haemoglobin C were discovered.

3. In addition, of nine anaemic patients examined, one was a case of sickle cell—haemoglobin C disease, and another a haemoglobin C homozygote."

* Hano and Neel (1950) and Hano (1951) reported that some American negroes suffering from mild sickle-cell anaemia had in their red cells another haemoglobin in combination with sickle haemoglobin which until then had not been described. This haemoglobin has been called haemoglobin C and the combination of sickle and C haemoglobin, "sickle cell – haemoglobin C disease."

A H.S.

* * *

BRANCH NEWS

NATAL BRANCH

On 7th October, 1954, our branch held a Dinner Dance. All who attended enjoyed themselves thoroughly. This function was such a success that your committee has decided to hold a running buffet dance in July of this year. The price of tickets will be considerably lower than the dinner dance and it is hoped, if successful, to make it an annual event.

Dr. H. Gordon, of Addington Hospital, was our lecturer for January. His talk, entitled "Aids in the Diagnosis of Cardiac Diseases", was most interesting and extremely well attended and a review of this lecture will appear in the Journal.

Members are reminded that the Annual General Meeting of the branch will take place on the 14th April, 1955.

J. PENDER-SMITH,
Hon. Secretary/Treasurer.

* * *

STUDENTS' SUB-SECTION:

At a meeting of the Students' Sub-Committee held 20th January, 1955, a tentative programme was drawn up for the coming three months. The suggestions put forward were:—

(1) A visit to a factory.
(2) A visit to the Durban Parliament.
(3) A Symphony Concert at the City Hall.

This programme has still to be discussed and any other suggestions from Student members will be welcomed.

The Tennis Tournament held in December was a great success and we congratulate Miss J. Stenhouse and Mr. V. Albeto on their well deserved win.

E. F. C. COETZEE.

DOMESTIC INTELLIGENCE

ENGAGEMENTS:

Mr. J. Pender-Smith, of Addington Laboratory, to Dr. M. M. G. Walker, on 10th December.

Miss R. Townshend, of King Edward VIII Laboratory, to Mr. K. Morley, on 4th January.

MARRIAGE:

Miss P. Cauvarel, of University of Natal Medical School, to Mr. B. McManus, on 29th January.

* * *

EAST LONDON

The parts of Africa from which there is always something new do not include East London. For there is very little new to report from this city. Not much happens, and what does happen happens slowly. There is only one medical laboratory in the place and the technical staff is not large. It is doubtful whether a year contains enough events worth remarking to furnish material for a reasonable article.

The recent consolidation of Cost of Living Allowance in basic salary in the Cape Provincial Hospitals Service has been regarded with mixed feelings. Generally speaking, we are slightly—very slightly—better off when it comes to drawing the monthly pay-cheque (from which, of course, pension fund decductions have already been made). But by the time the slight extra has been subjected to the depredations of the Inland Revenue Department there isn't really anything worth speaking of. In fact, certain of the Learner Grade staff are actually worse off. But we will feel the advantage when we retire—if we live that long.

Though we are a small laboratory—very small by Natal standards—we seem to do a fantastic range of investigations. About the only things we don't handle are viruses and radio-active isotopes. It is probably no exaggeration to say that a student technologist will gain more experience under one roof here than he will anywhere in the country. One wonders what sort of laboratory tests will be done fifty years hence. Every year sees the development of new tests, but very few of the old ones are dropped. If we continue at this rate, what will be the staff/patient ratio in hospitals—and what will be the cost of running the laboratories?

H.F.H.

COMPETITION

The Council of the Society has set aside the sum of £5–5–0 as an award for a suitable design for the Society's EMBLEM, which will be used on the front cover of this Journal and also as a lapel or pin badge.

Designs should conform to the following specification:—A drawing, in colour, in waterproof pigments (not oil colours), on bristol board exactly six inches wide and four inches high. The size of the drawing is to be less than the size of the card and must leave at least an inch margin all round. The design may be circular, a shield or oval, and should incorporate the name of the Society.

Judges will be appointed by the Council and their decision will be final.

All entries submitted will become the property of the Society and are not returnable.

Entries, which close on 1st June, 1955, should be forwarded, together with a fee of 2/6, to:—

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THE SOCIETY OF MEDICAL LABORATORY
TECHNOLOGISTS OF SOUTH AFRICA,
c/o CENTRAL PATHOLOGICAL LABORATORY,
PRIVATE BAG, JACOBS,
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* * *

All views and opinions expressed in this Journal are purely those of the contributor concerned, and do not necessarily reflect those of the Society.

* * *

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NOTICE TO CONTRIBUTORS

All contributions are to be addressed to:—The Editor, "The South African Journal of Medical Laboratory Technology", Laboratory, King Edward VIII Hospital, Durban, Natal.

Contributions may be written in English or Afrikaans, and should preferably be typed in double-spacing on foolscap sheets on one side of the paper only.

Figures should be drawn in Indian ink, and all figures and tables should be labelled as such (e.g. Figure 1, Table 1, etc.).

Authors should make adequate references to previous works on their subjects. These should be set out as follows:— Author's surname and initials of Christian names; the year of publication (in parentheses); the name of the journal, which should be abbreviated according to the World List of Scientific Periodicals (see below); the volume number (underlined); and the first page reference.

Example:—Moron, I. B. (1960). J. unsuccess. Med., 20, 99. References to books should give the author's name and initials, the year of publication, title of book, name of publisher, and town in which published.

References should be arranged in alphabetical order of the authors' surnames. If more than one work by the same author is listed, these should appear in chronological order.

Technologists are reminded that regulations demand that all original articles of a technical or scientific nature must be approved by the heads of their departments before being submitted for publication.

Title abbreviations according to the World List of Scientific Periodicals

All nouns are given capital letters, and adjectives small letters. Articles, conjunctions and prepositions are omitted.

Examples:—

J. Amer. med. Ass.	*S. Afr. J. clin. Sci.*
Lancet	*Stain Tech.*
Amer. J. clin. Path.	*J. Bact.*

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Alle bydrae moet as volg geadresseer word:—Die Editeur, „Die Suid Afrikaanse Joernaal van Mediese Technologie", Laboratorium, King Edward VIII Hospitaal, Durban, Natal.

Bydrae mag in Engels of Afrikaans geskryf word en moet verkieslik getik wees dubbel spasiering op folio-papier en net op een kant van die vel.

Figure moet in Indiese ink geteken word en alle figure en tabelle moet geëtiketeer word as sulks (b.v. Figuur 1, Tabel 1, ens.).

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Titel verkortings volgens Wêreld Lys van Wetenskaplike Tydskrifte

Alle selfstandige naamwoorde moet begin met hoofletters en byvoeglike naamwoorde met klein letters. Artikels, verbindings en voorsetsels word uitgelaat.

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